MC 87-I-22D(P)

PRELIMINARY REPORT
INDUSTRY SERIES

1987
Census of Manufactures

MC87-I-22D(P)
Issued July 1989

YARN AND THREAD MILLS

Industries 2281, 2282, and 2284

INTRODUCTION

This report presents preliminary statistics from the 1987 Census of Manufactures for those establishments classified in the industries listed above. These data will be superseded by a more comprehensive final paperbound report. The method of data collection and use of administrative data are discussed in detail in the appendix.

All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The definitions of these industries are the same as those used in the 1987 Standard Industrial Classification (SIC) Manual.[1]

INDUSTRY 2281, YARN SPINNING MILLS

In the 1987 Census of Manufactures, Industry 2281, Yarn Spinning Mills, had employment of 85.8 thousand.

The total value of shipments for establishments classified in this industry was $7.1 billion.

In 1987, establishments in this industry accounted for 75 percent of products considered primary to the industry regardless of the industry in which they were produced (coverage ratio). The products primary to this industry appear in table 2 and aggregated to $7.3 billion in 1987.

The cost of materials and services used by establishments in this industry amounted to $4.2 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 2282, THROWING AND WINDING MILLS

In the 1987 Census of Manufactures, Industry 2282, Throwing and Winding Mills, had employment of 21.8 thousand. The employment figure was 4 percent below the 22.8 thousand reported in 1982. Compared with 1986, employment in 1987 increased 11 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $2.5 billion.

In 1987, establishments in this industry accounted for 61 percent of products considered primary to the industry regardless of the industry in which they were produced (coverage ratio). In 1982, the coverage ratio was 49 percent. The products primary to this industry appear in table 2 and aggregated to $2.6 billion in 1987.

The cost of materials and services used by establishments in this industry amounted to $1.8 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 2284, THREAD MILLS

In the 1987 Census of Manufactures, Industry 2284, Thread Mills, had employment of 6.6 thousand. The employment figure was 33 percent below the 9.8 thousand reported in 1982. Compared with 1986, employment in 1987 increased 17 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $644.7 million.

[1] **Standard Industrial Classification Manual: 1987.** For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

Address inquiries to Bureau of the Census, Industry Division, Washington, DC 20233, or call **Gretchen Dickson** (301) 763-2510.

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In 1987, establishments in this industry accounted for 89 percent of products considered primary to the industry regardless of the industry in which they were produced (coverage ratio). In 1982, the coverage ratio was 90 percent. The products primary to this industry appear in table 2 and aggregated to $686.0 million in 1987.

The cost of materials and services used by establishments in this industry amounted to $404.3 million in 1987. Data on specific materials consumed appear in table 3.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in the tables in this publication:

-	Represents zero.
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(NC)	Not comparable.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review.
(X)	Not applicable.
(Z)	Less than half the unit shown.
do	Ditto.
n.e.c.	Not elsewhere classified.
n.s.k.	Not specified by kind.
pt.	Part.
r	Revised.
SIC	Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

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Census/ASM		
Durables	Kenneth Hansen	(301) 763-7304
Nondurables	Michael Zampogna	(301) 763-2510
Current Industrial Reports		
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Industry Analysis and Forecasts	International Trade Administration	(202) 377-4356

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Year[1]	Companies[2] (no.)	All establishments[3] Total (no.)	All establishments[3] With 20 employees or more (no.)	All employees Number (1,000)	All employees Payroll (million dollars)	Production workers Number (1,000)	Production workers Hours (millions)	Production workers Wages (million dollars)	Value added by manufacture[4] (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories[4] (million dollars)	Ratios Specialization (percent)	Ratios Coverage (percent)
INDUSTRY 2281, YARN SPINNING MILLS[5]															
1987 Census	234	402	346	85.8	1 399.6	78.1	164.1	1 182.1	2 906.9	4 206.5	7 094.0	315.2	595.4	94	[7]75
1986 ASM	(NA)	(NA)	(NA)	73.8	1 109.2	67.7	142.5	949.2	2 139.9	3 500.4	5 664.4	209.5	475.3	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	73.7	1 032.7	67.3	131.1	872.2	1 874.7	3 167.6	5 087.3	256.5	493.7	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	79.4	1 060.6	72.5	143.2	892.4	1 890.8	3 612.3	5 503.5	(D)	563.6	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	76.5	1 027.7	70.0	141.8	869.2	1 874.8	3 386.6	5 240.1	226.0	566.2	(NA)	(NA)
1982 Census	(NA)	450	347	76.0	891.5	69.5	130.5	756.1	1 575.0	2 913.6	4 512.9	156.6	517.8	(NA)	(NA)
1981 ASM	(NA)	(NA)	(NA)	89.3	1 002.5	81.6	159.5	845.1	1 821.6	3 089.9	4 874.1	192.4	546.6	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	93.9	986.0	85.8	170.0	835.8	1 776.3	2 825.9	4 592.7	155.3	488.9	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	93.7	915.5	86.3	175.1	784.3	1 795.0	2 511.2	4 279.7	145.0	488.3	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	96.8	872.2	89.1	180.7	745.4	1 769.4	2 464.1	4 220.0	170.5	413.3	(NA)	(NA)
1977 Census	(NA)	532	413	97.1	815.8	89.3	182.5	702.8	1 562.1	2 494.9	4 059.8	117.1	381.0	(NA)	(NA)
1976 ASM	(NA)	(NA)	(NA)	95.5	730.5	88.5	177.2	627.8	1 349.5	2 283.2	3 614.5	83.1	382.7	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	85.1	573.2	78.1	147.8	481.7	923.7	1 746.5	2 704.1	102.1	351.5	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	98.4	638.8	90.7	176.4	542.4	1 173.7	1 992.5	3 097.3	129.8	381.3	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	101.8	626.2	94.8	196.8	542.6	1 123.2	1 696.7	2 813.6	106.6	338.7	(NA)	(NA)
1972 Census	(NA)	525	422	97.9	566.0	91.0	882.5	493.0	819.9	1 520.5	2 469.7	100.5	280.1	(NA)	(NA)
INDUSTRY 2282, THROWING AND WINDING MILLS															
1987 Cesus	123	143	103	21.8	347.3	19.4	38.4	277.5	663.0	1 799.8	2 457.9	66.5	205.0	94	[8]61
1986 ASM	(NA)	(NA)	(NA)	19.7	291.7	17.5	33.9	233.0	606.5	1 545.1	2 138.8	39.0	186.6	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	21.9	315.0	19.2	37.2	248.5	628.9	1 701.4	2 340.4	51.5	195.5	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	21.9	304.9	19.5	37.1	240.1	586.9	1 628.7	2 213.7	75.3	178.2	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	25.5	326.3	22.5	44.8	257.2	675.1	1 667.3	2 324.5	52.5	216.7	(NA)	(NA)
1982 Census	160	189	139	22.6	273.0	19.8	37.7	212.3	527.4	1 399.6	1 944.7	59.0	157.8	94	[9]49
1981 ASM	(NA)	(NA)	(NA)	24.3	280.0	21.1	40.5	216.5	561.3	1 374.2	1 936.0	71.6	175.3	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	25.3	266.2	22.0	42.5	211.1	589.7	1 138.4	1 728.3	60.3	165.0	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	27.3	267.7	24.0	46.2	212.4	576.0	1 119.3	1 674.5	65.8	157.3	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	29.6	264.5	26.2	51.9	211.7	500.1	1 056.6	1 564.9	61.7	132.0	(NA)	(NA)
1977 Census	172	196	148	30.5	262.3	27.1	54.5	210.4	496.9	1 030.9	1 510.1	51.1	132.3	92	[9]55
1976 ASM	(NA)	(NA)	(NA)	39.2	323.1	34.2	66.3	252.1	587.1	1 173.8	1 773.2	78.3	147.2	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	36.5	271.4	31.6	60.3	209.9	489.5	1 093.9	1 593.1	54.5	158.8	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	41.6	279.7	36.1	72.0	216.1	619.8	1 183.7	1 772.3	78.6	158.7	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	43.4	279.7	37.5	77.0	218.1	703.9	1 116.3	1 805.9	94.5	149.8	(NA)	(NA)
1972 Census	177	212	169	38.0	230.9	32.9	67.9	180.1	477.8	941.3	1 427.6	113.7	[10]10.7	94	[9]74
INDUSTRY 2284, THREAD MILLS															
1987 Census	50	60	39	6.6	107.5	5.7	11.2	78.3	251.7	404.3	644.7	14.3	108.3	97	89
1986 ASM	(NA)	(NA)	(NA)	8.0	119.9	6.8	13.1	88.9	268.0	333.4	600.4	[9]10.4	114.0	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	8.5	119.7	7.2	13.1	86.3	245.3	343.2	591.3	[9]12.4	112.7	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	8.8	117.9	7.5	13.5	86.2	253.2	355.6	619.9	12.3	114.9	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	9.5	118.7	8.0	14.8	89.4	266.2	357.6	615.5	26.5	127.8	(NA)	(NA)
1982 Census	60	75	45	9.8	113.2	8.4	15.1	86.3	215.5	360.8	578.8	15.3	115.3	97	90
1981 ASM	(NA)	(NA)	(NA)	11.4	129.4	9.8	18.9	101.4	258.4	483.2	741.1	15.8	113.7	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	11.8	125.0	10.0	18.9	93.6	235.3	432.7	664.0	14.6	118.2	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	12.1	118.9	10.2	19.5	89.8	220.4	396.2	613.9	12.8	104.7	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	12.5	111.9	10.6	20.1	83.8	199.6	366.0	564.9	[9]12.5	102.5	(NA)	(NA)
1977 Census	59	70	47	12.8	106.3	10.9	21.1	81.1	201.9	351.9	544.4	11.8	102.7	96	91
1976 ASM	(NA)	(NA)	(NA)	10.6	82.4	9.1	17.2	59.6	181.1	283.5	456.3	5.2	89.2	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	9.7	70.3	8.2	15.1	50.7	153.4	238.4	397.7	3.9	81.4	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	10.7	72.8	9.2	16.7	53.2	181.2	244.4	414.8	8.0	87.8	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	12.0	76.6	10.3	19.9	57.6	174.1	215.7	379.4	7.9	70.8	(NA)	(NA)
1972 Census	61	73	45	11.7	69.2	10.1	19.9	52.8	141.8	205.2	345.4	7.5	56.8	92	90

Note: Establishments of single unit companies with up to 20 employees (cutoff varied by industry) were excluded from the mail portion of the census. Data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were estimated based on administrative-record information from other agencies in conjunction with industry averages. These establishments accounted for the following percent of total value of shipments: SIC 2281, 3%; SIC 2282, 7%; SIC 2284, 3%.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1972, see 1972 Census of Manufactures, vol. II, table 1a of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Includes establishments with payroll at any time during year.

[4]Beginning with the 1982 Census of Manufactures, all respondents were requested to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior Censuses and annual surveys of manufactures in which respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, inventories and value added by manufacture are not comparable to prior-year data.

[5]Industry was newly defined for 1987. It is composed of 1982 industries 2281 and 2283.

[6]Estimates for new capital expenditures have associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Coverage ratio calculation includes shipments of yarns finished from purchased yarn (primary products of industry 2269) as well as yarns spun and finished in the same establishment.

[8]Coverage ratio calculation includes shipments of textured filament yarns made by filament yarn producers (primary products of industry 2824) as well as textured filament yarn made from purchased filament yarns.

[9]Coverage ratio calculation includes shipments of textured filament yarns made by filament yarn producers (primary products of industries 2823 and 2824) as well as textured filament yarn made from purchased filament yarns.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: Part A. Industries 2281 and 2282

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987						
		Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Total shipments, including interplant transfers[1]		Transfers to other establishments in the same company		Quantity produced and consumed in the same establishment
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	
2281- —	**YARN SPINNING MILLS**							
	Total	**(NA)**	**(X)**	**(X)**	**7 297.0**	**(X)**	**(X)**	**(X)**
22811 —	Carded cotton yarns	(NA)	(X)	(X)	1 882.9	(X)	(X)	(X)
22811 10	Spun, gray — mil lb	83	2 126.6	1 115.4	1 607.0	621.7	851.8	1 017.9
22811 87	Spun and finished in the same plant — do	12	(X)	172.0	264.8	(X)	(X)	(X)
22811 00	Carded cotton yarns, n.s.k.	(NA)	(X)	(X)	11.2	(X)	(X)	(X)
22812 —	Combed cotton yarns	(NA)	(X)	(X)	795.2	(X)	(X)	(X)
22812 10	Spun, gray — mil lb	38	546.2	389.4	698.0	145.2	249.1	169.0
	Spun and finished in the same plant:							
22812 51	Dyed (see also code 2269023) — mil lb	5	(X)	8.9	30.5	(X)	(X)	(X)
22812 61	Mercerized (see also code 2269039) — do	2	(X)	(D)	(D)	(X)	(X)	(X)
22812 71	Bleached (see also code 2269012) — do	2	(X)	(D)	(D)	(X)	(X)	(X)
22812 00	Combed cotton yarns, n.s.k.	(NA)	(X)	(X)	26.6	(X)	(X)	(X)
22813 —	Rayon and/or acetate spun yarns	(NA)	(X)	(X)	264.1	(X)	(X)	(X)
22813 10	Spun, gray — mil lb	40	231.1	166.8	223.2	87.0	96.3	67.7
22813 43	Spun and finished in the same plant (see also code 2269026) — do	10	(X)	20.3	37.4	(X)	(X)	(X)
22813 00	Rayon and/or acetate spun yarns, n.s.k.	(NA)	(X)	(X)	3.5	(X)	(X)	(X)
22814 —	Spun noncellulosic fiber and silk yarns	(NA)	(X)	(X)	3 848.5	(X)	(X)	(X)
	Polyester spun yarn:							
22814 20	Spun, gray — mil lb	82	1 166.8	650.0	968.1	313.6	462.2	524.0
22814 41	Spun and finished in the same plant — do	21	(X)	108.9	159.1	(X)	(X)	(X)
	All other spun noncellulosic fibers and silk yarns:							
22814 80	Spun, gray — mil lb	77	937.0	934.1	1 688.7	244.7	429.7	114.5
22814 81	Spun and finished in the same plant (see also codes 2269030 and 2269034) — do	34	(X)	460.7	955.5	(X)	(X)	(X)
22814 00	Spun noncellulosic fiber and silk yarns, n.s.k.	(NA)	(X)	(X)	77.1	(X)	(X)	(X)
22815 —	Wool yarns	(NA)	(X)	(X)	309.7	(X)	(X)	(X)
22815 10	Wool yarns, except carpet yarns (including new, reused, and reprocessed wool) (see also code 22311) — mil lb	35	149.7	56.0	248.1	28.8	120.3	89.8
22815 20	Wool carpet (weaving and tufting) yarns, including new, reused, and reprocessed wool — do	7	22.1	22.1	61.5	4.6	13.1	–
22815 00	Wool yarn, n.s.k.	(NA)	(X)	(X)	–	(X)	(X)	(X)
22810 —	Yarn spinning mill products, n.s.k.	(NA)	(X)	(X)	196.5	(X)	(X)	(X)
22810 00	Yarn spinning mill products, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	(X)	161.7	(X)	(X)	(X)
22810 02	Yarn spinning mill products, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	(X)	34.8	(X)	(X)	(X)
2282- —	**YARN THROWING AND WINDING MILLS**							
	Total	**(NA)**	**(X)**	**(X)**	**2 572.9**	**(X)**	**(X)**	**(X)**
22822 —	Rewound, plied, etc., yarns (not spun or thrown at same establishment)	(NA)	(X)	(X)	91.8	(X)	(X)	(X)
22822 21	Rewound and novelty yarns, other than wool, not spun or thrown at same establishment — mil lb	9	(X)	18.1	44.8	(X)	(X)	(X)
22822 31	Plied yarns, other than wool, not spun or thrown at same establishment — do	6	(X)	*20.1	45.2	(X)	(X)	(X)
22822 41	Winding, warping, etc., of purchased wool yarns — do	1	(X)	(Z)	(Z)	(X)	(X)	(X)
22822 00	Rewound, plied, etc, yarns other than wool, n.s.k.	(NA)	(X)	(X)	1.8	(X)	(X)	(X)
22823 —	Thrown filament yarns, except textured	(NA)	(X)	(X)	1 003.8	(X)	(X)	(X)
22823 11	Nylon yarns — mil lb	39	(X)	462.4	833.6	(X)	(X)	(X)
22823 13	Polyester yarns — do	24	(X)	37.0	87.1	(X)	(X)	(X)
22823 15	All other thrown yarns — do	15	(X)	36.8	68.7	(X)	(X)	(X)
22823 00	Thrown filament yarns, except textured, n.s.k.	(NA)	(X)	(X)	14.4	(X)	(X)	(X)
22825 —	Textured, crimped, or bulked filament yarns, including stretch yarn (made from purchased filament yarn):							
22825 00	Textured, crimped, or bulked filament yarns, including stretch yarns (see also codes 2823036 and 28248) — mil lb	38	887.8	822.9	1 283.9	98.1	174.1	62.3
22829 —	Commission throwing, plying, etc., of yarns	(NA)	(X)	(X)	120.9	(X)	(X)	(X)
22829 11	Receipts for throwing or texturing of filament yarns	24	(X)	(X)	44.7	(X)	(X)	(X)
22829 51	Receipts for winding, warping, etc., of yarn not thrown or spun at same establishment	21	(X)	(X)	65.9	(X)	(X)	(X)
22829 00	Commission throwing, plying, etc., of yarns, n.s.k.	(NA)	(X)	(X)	10.3	(X)	(X)	(X)
22820 —	Yarn throwing and winding mill products, n.s.k.	(NA)	(X)	(X)	72.4	(X)	(X)	(X)
22820 00	Yarn throwing and winding mill products, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	(X)	43.7	(X)	(X)	(X)
22820 02	Yarn throwing and winding mill products, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	(X)	28.8	(X)	(X)	(X)

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of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of

1982							1987 product code
Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Total shipments, including interplant transfers[1]		Transfers to other establishments in the same company		Quantity produced and consumed in the same establishment	
		Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)		
							2281- —
(NA)	**(X)**	**(X)**	**4 767.7**	**(X)**	**(X)**	**(X)**	
(NA)	(X)	(X)	939.2	(X)	(X)	(X)	22811 —
69	1 765.7	620.4	906.9	267.1	378.4	1 144.4	22811 10
7	(X)	21.9	31.4	(X)	(X)	(X)	22811 87
(NA)	(X)	(X)	.9	(X)	(X)	(X)	22811 00
(NA)	(X)	(X)	350.5	(X)	(X)	(X)	22812 —
32	239.9	174.2	339.7	39.7	83.7	80.6	22812 10
2	(X)	(D)	(D)	(X)	(X)	(X)	22812 51
–	(X)	–	–	(X)	(X)	(X)	22812 61
1	(X)	(D)	(D)	(X)	(X)	(X)	22812 71
(NA)	(X)	(X)	.3	(X)	(X)	(X)	22812 00
(NA)	(X)	(X)	149.3	(X)	(X)	(X)	22813 —
37	141.1	78.5	126.1	31.5	48.7	65.4	22813 10
6	(X)	7.7	23.2	(X)	(X)	(X)	22813 43
(NA)	(X)	(X)	–	(X)	(X)	(X)	22813 00
(NA)	(X)	(X)	3 001.2	(X)	(X)	(X)	22814 —
72	1 814.9	637.9	1 056.0	261.6	424.4	1 152.3	22814 20
14	(X)	78.7	140.0	(X)	(X)	(X)	22814 41
74	1 075.7	779.5	1 441.7	285.9	484.9	308.5	22814 80
							22814 81
17	(X)	170.2	358.7	(X)	(X)	(X)	
(NA)	(X)	(X)	4.8	(X)	(X)	(X)	22814 00
(NA)	(X)	(X)	242.5	(X)	(X)	(X)	22815 —
34	107.9	45.7	187.3	(D)	(D)	59.2	22815 10
							22815 20
10	12.7	12.9	33.9	(D)	(D)	–	
(NA)	(X)	(X)	21.3	(X)	(X)	(X)	22815 00
(NA)	(X)	(X)	85.0	(X)	(X)	(X)	22810 —
							22810 00
(NA)	(X)	(X)	64.4	(X)	(X)	(X)	22810 02
(NA)	(X)	(X)	20.6	(X)	(X)	(X)	
							2282- —
(NA)	**(X)**	**(X)**	**2 002.5**	**(X)**	**(X)**	**(X)**	
							22822 —
(NA)	(X)	(X)	194.3	(X)	(X)	(X)	22822 21
30	(X)	102.9	194.3	(X)	(X)	(NA)	22822 31
						(X)	
(NA)	(X)	–	–	(X)	(X)	(X)	22822 41
(NA)	(X)	–	–	(X)	(X)	(X)	22822 00
(NA)	(X)	(X)	151.3	(X)	(X)	(X)	22823 —
						(NA)	22823 11
(NA)	(X)	57.8	149.6	(X)	(X)	(NA)	22823 13
						(X)	22823 15
(NA)	(X)	(X)	1.7	(X)	(X)	(X)	22823 00
							22825 —
							22825 00
59	1 107.6	939.2	1 467.5	150.6	233.5	265.2	
(NA)	(X)	(X)	139.5	(X)	(X)	(X)	22829 —
41	(X)	(X)	96.4	(X)	(X)	(X)	22829 11
							22829 51
11	(X)	(X)	41.2	(X)	(X)	(X)	
(NA)	(X)	(X)	1.9	(X)	(X)	(X)	22829 00
(NA)	(X)	(X)	29.9	(X)	(X)	(X)	22820 —
							22820 00
(NA)	(X)	(X)	18.9	(X)	(X)	(X)	22820 02
(NA)	(X)	(X)	11.0	(X)	(X)	(X)	

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

Part B. Industry 2284

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
2284- —	**THREAD MILLS**						
	Total	**(NA)**	**(X)**	**686.0**	**(NA)**	**(X)**	**614.6**
22840 —	Thread:						
	Cotton thread:						
22840 10	Finished thread for use in the home ---- mil lb	4	(S)	9.9	4	(D)	(D)
22840 23	Finished thread for industrial or manufacturers' use (excluding cordage products, such as bag thread, string, twine, rope, etc.) ---- do	12	*19.9	79.1	17	38.2	137.6
	Manmade fiber thread and other thread, except silk:						
	Filament yarn thread:						
22840 31	Finished thread for use in the home ---- mil lb	4	(D)	(D)	[3]6	[3]23.2	[3]53.8
22840 33	Industrial thread for industrial or manufacturers' use (excluding cordage products, such as bag thread, string, twine, rope, etc.) ---- do	5	28.2	120.3	[3]36	[3]71.9	[3]303.1
	Spun yarn thread:						
22840 41	Finished thread for use in the home ---- mil lb	14	21.3	27.1	[3]	[3]	[3]
22840 43	Industrial thread for industrial or manufacturers' use (excluding cordage products, such as bag thread, string, twine, rope, etc.) ---- do	(NA)	102.8	354.7	[3]	[3]	[3]
22840 51	Silk thread ---- do	1	(D)	(D)	–	–	–
22840 61	Unfinished thread shipped or transferred to other plants for finishing ---- do	3	(D)	(D)	4	(D)	(D)
22840 00	Thread, n.s.k., typically for establishments with 5 employees or more (see note) ----	(NA)	(X)	13.8	(NA)	(X)	1.5
22840 02	Thread, n.s.k., typically for establishments with less than 5 employees (see note) ----	(NA)	(X)	10.7	(NA)	(X)	7.8

Note: In 1987 Census of Manufactures, data for establishments of small single unit companies with up to 20 employees were estimated from administrative-record data rather than data actually collected from respondents. Employment cutoffs used for administrative-records for each industry and shipments figures are included in code ending with "002". In both 1987 and 1982 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

[1]Data reported by all producers, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1982, filament yarn thread and spun yarn thread were not separate categories.

Table 3. **Materials Consumed by Kind: 1987 and 1982**

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material		1987		1982	
			Quantity[1]	Delivered cost (million dollars)	Quantity[1]	Delivered cost (million dollars)
	INDUSTRY 2281, YARN SPINNING MILLS					
	Materials, containers, and supplies		**(X)**	**3 837.3**	**(NA)**	**(NA)**
	Natural fibers:					
013101	Raw cotton	1,000 bales	*3 151.3	971.6	(NA)	(NA)
020001	Raw wool, mohair, and other animal fiber (scoured weight)	mil lb	**31.4	89.0	(NA)	(NA)
229963	Wool tops	do	20.8	49.3	(NA)	(NA)
010014	Other (silk, jute, reused wool, waste, etc.)	do	(S)	7.0	(NA)	(NA)
	Manmade fibers (staple and tow):					
282305	Rayon and acetate	mil lb	124.3	86.3	(NA)	(NA)
282413	Nylon	do	651.1	805.1	(NA)	(NA)
282425	Polyester	do	673.8	471.4	(NA)	(NA)
282426	Acrylic	do	*324.4	357.2	(NA)	(NA)
282428	Other, except glass	do	**86.3	123.7	(NA)	(NA)
	Yarns:					
228101	Spun yarns, all fibers	mil lb	*81.2	95.5	(NA)	(NA)
282411	Nylon filament yarns	do	113.2	178.4	(NA)	(NA)
282423	Polyester filament yarns	mil lb	33.3	35.0	(NA)	(NA)
282408	All other manmade filament yarns, except glass	do	.5	1.5	(NA)	(NA)
280031	Dyes, lakes, and toners		(X)	39.9	(NA)	(NA)
970099	All other materials, containers, and supplies		(X)	507.1	(NA)	(NA)
971000	Materials, containers, and supplies, n.s.k.[2]		(X)	19.3	(NA)	(NA)
	INDUSTRY 2282, THROWING AND WINDING MILLS					
	Materials, containers, and supplies		**(X)**	**1 703.7**	**(X)**	**1 309.4**
228101	Spun yarns, all fibers	mil lb	**46.9	53.9	*40.4	77.9
282423	Polyester filament yarns	do	471.4	432.3	700.7	541.4
282411	Nylon filament yarns	do	*454.6	672.6	220.6	387.0
282408	All other manmade filament yarns, except glass	do	(S)	60.2	(S)	50.1
280031	Dyes, lakes, and toners		(X)	8.7	(X)	6.0
970099	All other materials, containers, and supplies		(X)	455.6	(X)	161.7
971000	Materials, containers, and supplies, n.s.k.[2]		(X)	20.4	(X)	85.3
	INDUSTRY 2284, THREAD MILLS					
	Materials, containers, and supplies		**(X)**	**379.8**	**(X)**	**332.1**
013101	Raw cotton	1,000 bales	28.5	16.7	47.4	21.0
	Manmade fibers (staple and tow):					
282413	Nylon	mil lb	(S)	52.0	37.4	41.7
282305	Rayon and acetate	do	9.9	7.9		
282425	Polyester	do	4.7	7.2		
282426	Acrylic	do	(D)	(D)		
	Yarns:					
228101	Spun, all fibers	mil lb	151.9	178.9	54.7	159.7
282411	Nylon filament	do	(S)	22.3	**11.0	19.8
282423	Polyester filament	do	(S)	30.2	**11.2	20.4
282408	All other manmade filament, except glass	do	(D)	(D)	2.0	2.7
280031	Dyes, lakes, and toners		(X)	8.7	(X)	7.5
970099	All other materials, containers, and supplies		(X)	45.4	(X)	51.3
971000	Materials, containers, and supplies, n.s.k.[2]		(X)	5.9	(X)	8.0

APPENDIX
Scope and Coverage and Explanation of Terms

GENERAL

The 1987 Census of Manufactures is the 32nd census of manufacturing establishments conducted in the United States. For 1987, it was conducted as part of the economic censuses, which included the censuses of mineral industries, construction industries, retail and wholesale trades, service industries, selected transportation activities, and minority-owned and women-owned businesses, under authority of title 13 of the United States Code. Title 13 specifies that an economic census be conducted every 5 years to cover years ending in 2 and 7.

SCOPE AND COVERAGE

Establishment Basis of Reporting

The census of manufactures is conducted on an establishment basis. All manufacturing establishments with one paid employee or more at any time during the year are covered by the census of manufactures. Therefore, a company operating at more than one location is required to file a separate report for each location. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units which service manufacturing establishments of the same company. Where these auxiliary operations are conducted at the same location as the manufacturing operation, they are usually included in the report for the operating manufacturing establishment.

Use of Administrative Records

From a universe of approximately 350,000 manufacturing establishments in the 1987 Census of Manufactures, approximately 150,000 small single-establishment companies were excused from filing reports. Selection of the small establishment nonmail cases was done on an industry-by-industry basis. A variable cutoff was used to determine those establishments for which administrative records were to be used in place of a census report. The cutoffs were selected so the administrative-record cases would account for approximately 3 percent or less of the value of shipments for the industry. These cutoffs were then adjusted so that all single-establishment companies with less than 5 employees were excluded from the mail canvass, while all establishments with more than 20 employees were included. Where establishments in the 5 to 20 employee size range were included in the mail canvass, an abbreviated census form was frequently used.

For these nonmail establishments, (and a small number of larger establishment whose reports were not received at the time the data were tabulated) data on employment, payroll, and receipts were obtained from administrative records of other government agencies rather than from census forms. The administrative-record information was then used in conjunction with industry averages to estimate the data for these establishments. The value of shipments and cost of materials were not distributed among specific products and materials but were included in the product and material "not specified by kind" (n.s.k.) categories.

EXPLANATION OF TERMS

Number of establishments and companies–A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

All employees–Includes all full-time and part-time employees on the payrolls at any time during the year. Included are all persons on paid sick leave, paid holidays, and paid vacations. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November.

Production workers–Includes workers up through the working-supervisor level engaged in fabricating, processing, assembling, inspecting, receiving, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., powerplant), recordkeeping, and other closely associated services. Truckdrivers delivering ready-mixed concrete are also included in production workers.

Other employees–Includes nonproduction personnel, including those engaged in the following activities: supervision above working-supervisor level, sales (including driver/salespersons), sales delivery (truckdrivers and helpers), advertising, credit collection, installation and

servicing of own product, clerical and routine office functions, executive, purchasing, finance, legal, personnel (including cafeteria, etc.), professional, and technical employees.

Payroll–Includes the gross earnings for the "employees" defined above, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Respondents were told that in reporting they could follow the definition of payrolls used for calculating the Federal withholding tax.

Production-worker hours–Covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the plant.

Cost of materials–Refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuels consumed, regardless of whether they were purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (a) all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year; (b) electric energy purchased; (c) fuels consumed for heat, power, or generating electricity; (d) work done by others on materials or parts furnished by manufacturing establishments (contract work); and (e) products bought and resold in the same condition.

Specific materials consumed (table 3)–In addition to the total cost of materials which every establishment was required to report, information was also collected for most manufacturing industries on the consumption of major materials used in manufacturing. These inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. Establishments consuming less than a specified amount (usually $10,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which administrative records were used was estimated as "not specified by kind" (n.s.k.).

Value of shipments and other receipts–Generally refers to received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair receipts, sale of scrap, and sale of products bought and resold without further processing. Included are all items made by or for the establishment from materials owned by it whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In a few industries, the value of production or value of work completed is used instead of value of shipments. These industries are identified in the introduction and are footnoted in table 1.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, that is, including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead and profit).

Shipments or production of individual products (table 2)–In the 1987 census, detailed shipment information was collected for approximately 11,000 individual products. These products are identified by a seven-digit code and are grouped into approximately 1,500 classes of products, which in turn are primary to 459 four-digit industries. Data at the five-digit product-class level have been collected each year as part of the annual survey of manufactures. Information at the seven-digit level, collected for many industries in the current industrial reports program, is not included in this table.

Value added by manufacture–This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments for products manufactured plus receipts for services rendered. The result of this calculation is then adjusted by the addition of value added by merchandising operations (that is, the difference between the sales value and cost of merchandise sold without further manufacturing, processing, or assembly) plus the net change in finished goods and work-in-process inventories between the beginning and end of the year.

For those industries where value of production is collected instead of value of shipments (see footnote in table 1), value added is adjusted only for the change in work-in-process inventories between the beginning and end of the year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

Value added avoids the duplication in the figure for value of shipments which results from the use of products of some establishments as materials by others. Value

added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

Expenditures for new plant and equipment–Establishments in operation and any known plants under construction were asked to report their expenditures for (a) permanent additions and major alterations to manufacturing establishments and (b) new machinery and equipment used for replacement and additions to plant capacity if they are of the type for which depreciation accounts are ordinarily maintained.

These totals exclude expenditures for used plant and equipment, expenditures for land, and cost of maintenance and repairs charged as current operating expenses. Data for used plant and equipment will be published in the final industry bulletin.

End-of-year inventories–Comprised of (a) finished products; (b) work-in-process; and (c) materials, supplies, fuels, etc. Beginning in 1982, respondents were asked to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method. Therefore, 1982 through 1987 data for inventories are not strictly comparable to prior-year data.

Specialization and coverage ratios–An establishment is classified in a particular industry if its shipments of primary products of the industry exceed in value its shipments of the products of any other single industry. An establishments' shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). The following ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in table 1 and data on product shipments shown in table 2.

Specialization ratio–Represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio–Represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments, wherever classified.